

PTAK, Vlastimil

"A Combinatorial Theorem on Systems of Inequalities and
its Application to Analysis." (Preliminary Communication)
Czech. Math. Jour. 84 (1959), pp. ~~503-507~~

629-630

PATK, Vlastimil and FIEDLER, M.

"An Iterative Method of Computing the Eigenvalues and
Eigenvectors of a Symmetric Matric." Jour. for
Cultivation of Math. 85 (1960), pp. 18-36.

PTAK, Vlastimil

An extension theorem for separately continuous functions and its application to functional analysis. Chekhosl mat zhurnal 14 no.4:562-581 N '64.

1. Mathematical Institute of the Czechoslovak Academy of Sciences, Prague 1, Zitna 25. Submitted on August 20, 1963.

FIEDLER, Miroslav; PTAK, Vladimír

Estimates and iteration procedures for proper values of
almost decomposable matrices. Chekhosl mat zhurnal 14 no.4:
593-608 N '64.

1. Institute of Mathematics of the Czechoslovak Academy of
Sciences, Prague 1, Žitná 25. Submitted on October 11, 1963.

PTAK, Vlastimil

"Foundations of general topology" by A.Gaszar. Reviewed by
Vlastimil Ptak. Aplikace mat 9 no.3:238 '64.

PTAK, Vlastimil (Prague)

Report on the Fourth All-Union Conference on Topology in the
Soviet Union. Cas pro pest mat 89 no.2:253 Ap '64

FIDLER, Miroslav [Fiedler, Miroslav]; PTAK, Vlastimil

Evaluations and iterative methods for determining the simple
eigenvalue of an almost decomposable matrix. Dokl. AN SSSR 151
no.4:790-792 Ag '63. (MIRA 16:8)

1. Matematicheskiy institut Chekhoslovatskoy Akademii nauk,
Praga, Chekhoslovatskaya Sotsialisticheskaya Respublika.
Predstavleno akademikom S.L.Sobolevym.
(Matrices) (Eigenvalues)

PTAK, Vlastimil (Praha)

International Mathematical Congress in Stockholm. Cas pro pes mat
88 no.1:120-121 '63.

L 43902-65 EWA(c)/EWT(m)/EWP(b)/T/EWP(t) Feb DIAAP JD

S/0181/65/007/003/0677/0682

ACCESSION NR: AP5006865

AUTHOR: Naumov, A. N.; Ptashnik, V. B.

TITLE: Methods of determining the isotopic effect of diffusion in a solid

SOURCE: Fizika tverdogo tela, v. 7, no. 3, 1965, 677-682

TOPIC TAGS: diffusion, isotopic effect, diffusion coefficient

ABSTRACT: Exact and approximate formulas relating the experimentally determined separation factor and the magnitude of the isotopic effect of diffusion in a solid are derived from known solutions of the diffusion equations. Experimental conditions under which the ratio of the diffusion coefficients of two isotopes is obtained with maximum accuracy are deduced. Diffusion in an infinite solid and from an infinitesimally thin layer is considered, and the methods of determining the concentration and amount of diffusing matter by the various methods are compared. Methods based on the determination of the amount of diffusing matter are preferable in the case of precision analysis of the isotopic composition requiring a large amount of matter (flotation analysis or activation analysis). In the case

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ACCESSION NR: AP5006865

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of spectrometric or radioactivity analyses, it becomes necessary to make use also of methods involving the determination of the concentration. "The authors thank G. Ya. Ryskin for participating in the discussion of the results." Orig. art. has: 3 figures, 8 formulas, and 1 table.

ASSOCIATION: Fiziko-tekhnicheskiy institut im. A. F. Ioffe AN SSSR, Leningrad
(Physicotechnical Institute, AN SSSR)

SUBMITTED: 18 May 64

ENCL: 00

SUB CODE: NP, SS

NR REF SOV: 001

OTHER: 005

Card 2/214

FIEDLER, Miroslav (Praha); PTAK, Vlastimil (Praha)

An iterative method for bringing a symmetric matrix to the diagonal
form. Cas pro pest mat 85 no.1:18-36 F '60. (EEAI 9:10)
(Matrics)

PTAK, V.

A method for approximate solution of linear equations in Banach spaces.
In Russian. p. 389

CASOPIS PRO PESTOVANI MATEMATIKY. (Ceskoslovenska akademie ved. Matematicky ustav)
Praha, Czechoslovakia

Vol 83, no. 4, Nov. 1959

Monthly list of East European Accessions (EEAI) LC. VOL. 9, no. 1 January 1960

Uncl.

P/058/63/008/001/002/003
E193/E383

AUTHOR: Ptak, Władysław

TITLE: Problem of the existence of the intermetallic compound InSb in liquid In-Sb solutions from the point of view of thermodynamics of solutions

PERIODICAL: Archiwum hutnictwa, v. 8, no. 1, 1963, 21 - 36

TEXT: Starting from the assumption that liquid In-Sb solutions can be regarded as ternary In-InSb-Sb systems, the present author conducted an analytical study of the thermodynamics of this system. He calculated the activity coefficients of the three components as a function of concentration and temperature, using experimental data due to Terpiłowski (Arch. hutn. 4, 1959, 71) and theoretical concepts formulated by Krupkowski (Zasady termodynamiki i ich zastosowanie w metalurgii i metaloznawstwie, (Principles of thermodynamics and their application in metallurgy and metal science), Cracow, 1958).

The present author then calculated the equilibrium constants and free energy of the reaction $\text{In} + \text{Sb} \rightleftharpoons \text{InSb}$ and derived an expression for the temperature-dependence of the free energy of this
Card 1/2

Problem of the existence

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E193/E383

reaction in the form of $\Delta F^\circ = -2080 + 1.0 T$. A formula was also derived from which the concentration of In, Sb and InSb in liquid In-Sb alloys could be calculated. It was shown that for $N_{In} = 0.5$, N_{InSb} was 0.1470 at 923 °K and 0.1550 at 798 °K. The values obtained with the aid of this formula were in good agreement with those calculated directly from experimental data. There are 5 figures and 4 tables.

SUBMITTED: July 3, 1962

Card 2/2

PTAK, Wladyslaw

Dependence of the activity coefficients of metals in binary solutions on their composition. Metal i odlew no.7:59-92 '61.

1. Katedra Metalurgii Metali Niezależnych, Zakład Metalurgii Metali Lekkich, Akademia Górnictwa-Hutnictwa, Kraków.

PTAK, Wladyslaw

Distr: 4E2c

Dilution law for solutions of metals. Aleksander

Krupkowski and Wladyslaw Ptak. Rudy i Metale Niez-

luzne 1, 6-9 (1956). The equation of Krupkowski (C.A. 51,

14384d) is applied to calcns. of contents and solubilities of

impurities in metal refining. As an example, the sepn. of

Ag from Pb is given. Z. Kurtyka

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Ok

PTAK, Wladyslaw, prof. dr inz.; GALANTY, Adam, mgr inz.; NOWAKOWSKI,
Jerzy, mgr inz.; SKOWRONEK, Stanislaw, mgr inz.

Experiments in chlorinating primary aluminum with hexa-
chloroethane. Rudy i metale 9 no.6:283-290 Je '64.

PTAK, W.

Chromatographic studies on steroid hormones in the brown tissue.
Acta physiol.polon. 11 no.5/6:864-865 '60.

1. Z Zakladu Patologii Og. i Dosw. Pomorskiej A.M. w Szczecinie
Kierownik: doc.dr J. Makowski.
(ADRENAL CORTEX HORMONES chem)
(ADIPOSE TISSUE chem)

PTAK, Włodzimierz

Chromatographic studies on steroid hormones appearing in the brown fat tissue. Endokr. Pol. 13 no.2:111-122 '62.

1. Zakład Patologii Ogólnej i Doswiadczalnej Pomorskiej Akademii Medycznej w Szczecinie Kierownik: prof. dr J. Makowski.

(STEROIDS chem) (ADIPOSE TISSUE chem)
(CHROMATOGRAPHY)

PTAK, W.

Poland/Pharmacology. Toxicology. Tranquilezers

V

Abs Jour : Ref Zhur-Biol., No 8, 1958, 37530

Author : Bobr Jan, Ptak W.

Inst : Not given

Title : Observations of the Effect of Hibernation and Neuroplegic Drugs in Experimental Tetanus. (Nablyudeniya nad deystviyem givernatsii i neyroplegicheskikh sredstv pri eksperimental'nom stolbnyake.

Orig Pub : Polski tygod. lekar., 1956, 11, No 39, 1679-1680

Abstract : The effect of hibernation induced by chilling and the application of pharmacological drugs, on the course of acute tetanus intoxication in mice and rats which were infected with known lethal doses of tetanus toxin or 24 hour culture of Clostridium tetani was studied. Before the infection and following the appearance of tetanus symptoms the animals

Card 1/2

KRUPKOWSKI, Aleksander; PTAK, Wladyslaw

Thermodynamic characteristic of liquid iron-oxygen solutions. Przegl
hutn 6 no.4:265-285 '61.

1. Instytut Podstawowych Problemow Techniki Polskiej Akademii Nauk
Zaklad Metali, Krakow. Redaktor naczelny kwartalnika "Archiwum Hutnictwa"
(for Krupkowski)

PTAK, Wladyslaw

POLAND/Atomic and Molecular Physics - Statistical Physics. Thermo- D-3
dynamics

Abs Jour : Ref Zhur - Fizika, No 2, 1958, No 3176

Author : Krupkowski Aleksander, Ptak Wladyslaw, Block-Bolten Andrzej.
Inst : Academy for Mining and Smelting, Cracow, Poland
Title : Thermodynamic Functions in Binary Systems.

Orig Pub : Zesz. nauk. Akad. gorn.-huth., 1957, No 10, 27-71

Abstract : The authors consider the relationships between the form of the diagrams of the thermal systems and the thermodynamic functions that characterize these systems. Methods for calculation of the thermodynamic functions such as enthalpy and entropy, chemical potentials of pure elements, partial heat of solubility, heat of solution, activity of the substances in solution, enthalpy, entropy and chemical potentials of individual metals in solutions are presented. Another group of functions comprises the enthalpy, entropy, and free energies of solutions and mixtures. Four typical thermal systems of metals which do not form into metallic compounds

Card : 1/2

POLAND/Physical Chemistry - Solutions. Theory of Acids
and Bases.

B.

Abs Jour : Ref Zhur - Khimiya, No 9, 1958, 28040

Author : Ptak, W.

Inst :

Title : Thermodynamic Properties of Irregular [sic] Solutions.

Orig Pub : Arch Hutn, 2, No 3, 269-286 (1957) (in Polish with
summaries in English and Russian)

Abstract : In continuation of previously published work (RZhKhim,
1955, 22051) the author has determined the empirical
constants K , χ , and n for the liquid [binary] sys-
tems Zn-Sn and Cd-Sn, using the independence of the par-
tial heat of solution from the temperature following
Hildebrand and experimental data (RZhKhim, 1957, 57909).
The following values were obtained: 2.192684 [sic] and
1.3 and 1.6, 10,900, and 1.6, respectively. It is shown
that the values of the thermodynamic functions obtained

Card 1/2

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PTAK, W.

"Thermodynamic properties of irregular solutions."

p. 269 (Archiwum Hutnictwa) Vol. 2, no. 3, 1957
Warsaw, Poland

SO: Monthly Index of East European Accessions (EEAI) LC. Vol. 7, no. 4,
April 1958

Ptak, W.

Activity coefficient of some nonferrous metals in binary solutions. In English.
p. 137, Vol. 2, no. 3, 1954, BULLETIN, Dep't of Technical Sciences, Polish

Academy of Sciences

SO: MONTHLY LIST OF EAST EUROPEAN ACCESSIONS, (E3AL), Vol. 4, No. 9, IC,
Sept. 1955, Uncl.

PTAK, W.

The influence of the extracts of the brown and yellow adipose tissues of the rat and guinea pig on the storage of glycogen in the liver of albino mice. Folia biol 10 no.2:125-130 '62.

The effect of stress on the steroid hormone content in the brown adipose tissue of the rat. Ibid.:131-135

1. Department of Microbiology, Medical Academy, Krakow.

Ptak, Władysław

Thermodynamic properties of irregular solutions. Władysław Ptak. *Arch. Hutnictwa* 7, 263-66 (1957) (English summary).—Formulas for thermodynamic functions of irregular solids are derived on the basis of Krupkowski's generalization (cf. *C.A.* 52, 203a) of Hildebrand's rule. Molar heats of mixing, excess free energies, and entropies were calcd. for binary Sn-Zn and Sn-Cd liquid mixts. From the relations obtained for binary systems, the excess functions of the ternary Sn-Zn-Cd mixts. at 760°K. were computed. They agreed well with the expl. data of Fiorani and Valenti (*C.A.* 50, 3806a). A. Kręglewski

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Ptak, Władysław

Thermodynamic functions of binary systems. Aleksander Krupkowski, Władysław Ptak, and Andrzej Błock-Bollen (Akad. Górniczo-Hutnicza, Kraków). Zeszyty Nauk: Akad. Górniczo-Hutniczej, No. 10, Met. i Ocieplenie No. 2, 27-71 (1957) (English summary).—Starting from activity coeffs. detd. by Krupkowski (D.O.)

4457

869.2/8.018.12

Plak W. Coefficients of Activity of Non-Ferrous Materials Giving Eutectics.

„Współczynniki aktywności metali nieżelaznych tworzących eutektyki”. Archiwum Hutnictwa (PAN), No. 1, Warszawa, 1955, PWN, pp. 53-97, 40 figs., 20 tabs.

The activity coefficients given in this paper concerning metals in liquid and solid solutions of binary systems are calculated by reference to the equilibrium systems. Consideration is given only to such solutions of metals as indicate on the equilibrium systems an eutectic, and at the same time do not indicate the existence of partially soluble solutions of a larger range. The Cr-Ni system is an exception for which the coefficients of activity had been determined both in liquid and in solid solutions. The equilibrium systems of metals giving chemical compounds were also disregarded. Taking into account these premises, the dependence of activity coefficients on composition are given for the following solutions: Bi-Ag, Na-Ag, Si-Ag, Be-Al, Al-Ga, Al-Hg, Co-Au, Ge-Au, Si-Au, Cd-Tl, Ni-Cr, Li-Cu, Sn-Ga, Zn-Ga, Ge-Pb, Zn-Hg, Na-Rb, Sb-Pb, Sb-Si, and Sn-Si. In conformity with A. Krupkowski, these dependences are given as formulae

$$\log f_A = -\frac{a}{T} (1 - N_A)^m$$

Plak, W. Coefficients of Activity

The intention of this work was to determine the values a and m for the individual liquid solutions. These values are given in a table. This limitation results from Hildebrand's approximation assuming that the molecular heats of dissolution are not dependent on temperature. Moreover, the dependence on composition of molecular heats of dissolution is given in this work, together with the entire heat required to obtain a liquid solution for individual solutions. The values of the entire heat required to obtain a solution are also compared with those of experimental data for several cases found in literature.

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P.S.

PTAK, W.

21 27
✓ Chemical Equilibria in the System Iron-Silicon-Oxygen. W. Ptak. (Hutnik, 1956, 89, (9), 233-238). (In Polish). Calculations of the equilibrium constant of the oxidation of silicon in the molten iron and concentrations of FeO and Si were carried out on the basis of thermochemical data and thermodynamic equations quite independent of the experimental investigation of the reversible reaction $2\text{FeO} + \text{Si} \rightleftharpoons 2\text{Fe} + \text{SiO}_2$. Activity coefficients were taken into account, introducing acceptable simplifying assumptions. Good agreement with the experimental data of F. Koerber and W. Oelsen was obtained. —K. a.

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PTAK, W.

Coefficients of activity of nonferrous metals forming eutectica, p. 53.
(Archiwum Hutnictwa, Warszawa, Vol. 1, no. 1, 1956.)

SO: Monthly List of East European Accessions (EEAL) LC, Vol. 6, no. 7, July 1957. Uncl.

4157 639.2/3.018.12
 Ptak W. Coefficients of Activity of Non-Ferrous Materials Giving Eutectics.

„Współczynniki aktywności metali nieżelaznych tworzących eutektyki". Archiwum Hutnictwa (PAN). No. 1, Warszawa, 1958, PWN, pp. 53-57, 40 figs., 20 tabs.

The activity coefficients given in this paper concerning metals in liquid and solid solutions of binary systems are calculated by reference to the equilibrium systems. Consideration is given only to such solutions of metals as indicate on the equilibrium systems an eutectic, and at the same time do not indicate the existence of partially soluble solutions of a larger range. The Cr-Ni system is an exception for which the coefficients of activity had been determined both in liquid and in solid solutions. The equilibrium systems of metals giving chemical compounds were also disregarded. Taking into account these premises, the dependence of activity coefficients on composition are given for the following solutions: Bi-Ag, Na-Ag, Si-Ag, Be-Al, Al-Ge, Al-Hg, Cu-Au, Ge-Au, Si-Au, Cd-Tl, Ni-Cr, In-Cu, Sn-Ga, Zn-Ga, Ge-Pb, Zn-Hg, Na-Rb, Sb-Pb, Sb-Si, and Sn-Si. In conformity with A. Krupkowski, these dependences are given as formulae

$$\log f_A = \frac{a}{T} (1 - N_A)^m$$

$$\log f_B = \frac{a}{T} \left[(1 - N_A)^m - \frac{m}{m-1} (1 - N_A)^{m-1} + \frac{1}{m-1} \right]$$

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Plak, W. Coefficients

The intention of this work was to determine the values a and m for the individual liquid solutions. These values are given in a table. This limitation results from Hildebrand's approximation assuming that the molecular heats of dissolution are not dependent on temperature. Moreover, the dependence on composition of molecular heats of dissolution is given in this work, together with the entire heat required to obtain a liquid solution for individual solutions. The values of the entire heat required to obtain a solution are also compared with those of experimental data for several cases found in literature.

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PTAK, WLÓDZIMIERZ

BOBR, Jan; PTAK, Włodzimierz

Observation on the action of hibernation and neuroplegic
drugs in experimental tetanus. Polski tygod. lek. 11 no.39:
24 Sept 56.

1. (Z Zakładu Mikrobiologii Lekarskiej A.M. w Krakowie; kierownik:
prof. dr. Z. Przybylkiewicz) adres: Krakow, ul. Czysta 18.
(TETANUS, experimental,
eff. of artif. hibernation (Pol))
(HIBERNATION, ARTIFICIAL,
in exper. tetanus (Pol))

~~Władysław~~ PTAK, Władysław

POL.

11898* Activity Coefficients of Metals in Liquid Ternary Solutions. Współczynniki aktywności metali w roztworach trójskładnikowych. (Polish.) Władysław Ptak. Archiwum Górniczo i Hutnictwa, v. 3, no. 1, 1963, p. 69-87.
Formulas for several ternary liquid solutions are worked out; effect of temperature and composition on activity coefficients. Tables, phase diagrams. 3 ref.

POLAND

PORWIT-BOBR, Zofia; PRZYBYLKIOWICZ, Zdzislaw, and PTAK, Wlodzimierz;...
Department of Medical Microbiology, Academy of Medicine (Zaklad Mikrobiologii
Lekarskiej AM, Head (Kierownik) Prof Dr Z PRZYBYLKIOWICZ, Krakow.

"Optimal Conditions of Interferon Isolation from Polyoma-Infected Mouse
and Hamster Cell Cultures."

Warsaw, Medycyna Doswiadczalna i Mikrobiologia, Vol 18, No 1, 1966; pp 67-73.

Abstract [English summary modified]: Original SE polyoma virus and a small-
plaque variant produced both the same amount of interferon in either mouse
or hamster renal cells or mouse embryonic cell cultures; maximum titers of
interferon appeared the second week after infection. Production of interferon
was relatively poor in all experiments. Graph, table; 7 Polish (5 un-
published) and 19 Western references.

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~~WŁADYSLAW~~, PTAK, W.

metal 13050* (Polish) Coefficients of Activity of Non-Ferrous Metals Giving Eutectics. Współczynniki aktywności metali nieżelaznych tworzących eutektyki. Władysław Ptak. *Archivum Chimicum*, v. 1, no. 1, 1958, p. 53-57.

Data includes dependence of activity coefficients on composition, dependence of molecular heats of dissolution on composition, and whole heats required to obtain a solution.

SK

BOBR, Jan; PTAK, Włodzimierz

Course of experimental anaphylactic shock in paraldehyde
anesthesia. Polski tygod. lek. 10 no.37:1213-1214 12 Sept 55.

1. Z Zakładu Mikrobiologii Lekarskiej A.M. w Krakowie;
kierownik: prof. dr. Z. Przybylkiewicz. Krakow, ul. Czysta 18.
Zakład Mikrobiologii Lekarskiej A.M.

(ALLERGY, experimental,
anaphylactic shock, eff. of paraldehyde anesth.)

(PARALDEHYDE, anesthesia and analgesia,
eff. on exper. anaphylactic shock.)

STAN, A.

Activity coefficients of metals in ternary solutions. p. 69.
CHEMIA I FIZYKA I HUTNICIA, Warszawa, Vol. 3, no. 1, 1955.

S.: Monthly List of East European Accessions, (REAL), LC, Vol. 4, no. 10, Oct. 1955,
Uncl.

PEAR, W.

5600* Coefficients of Activity of Some Non-Ferrous Metals
in Binary Solid and Liquid Solutions: Współczynniki akty-
wności niektórych metali nieżelaznych w dwuskładnikowych
roztworach stałych i ciekłych, (Polish.) Władysław Piek
Archivum Górnicwa i Hutnictwa, v. 2, no. 1, 1954, p. 71-108.
Calculations based on methods given by A. Krupkowski for
Ni-C, Sn-Pb, Cu-Ag, Cu-Ni, Bi-Hg, Sn-Zn, Bi-Cu, Cd-Zn,
Bi-Cd, and Bi-Sn alloys. Tables, graphs. 37 ref.

PTAK, W.

"POL."

✓ Activity Coefficient of Some Non-Ferrous Metals in Binary Solutions. W. Ptak.
Bul. Acad. Polonaise Sci. (Warsaw), No. 3,
1954, pp. 137-142. Application to the
metallurgical problems of refining, fabri-
cation, and carbonization processes.

M 87

PTAK, W.

Plak W. Coefficients of Activity of Certain Non-Ferrous Metals in Binary Solid and Liquid Solutions.

„Współczynniki aktywności niektórych metali nieżelaznych w dwuskładnikowych roztworach stałych i ciekłych”. Archiwum Górnicwa i Hutnictwa (PAN). No. 1, 1954, pp. 71—122, 23 figs., 23 tabs.

By means of methods described by A. Krupkowski, the author calculated, on the basis of equilibrium systems of alloys, the coefficients of activity of metals in solid and liquid solutions. To get at the relation between activity coefficients and the composition of solution, A. Krupkowski's formulae were used (obtained by resolving Gibbs-Duhem's

equation) $\ln f_B = \frac{\alpha}{T} (1 - N_B)^m$

$$\ln f_A = \frac{\alpha}{T} \left[(1 - N_B)^m - \frac{m}{m-1} (1 - N_B)^{m-1} + \frac{1}{m-1} \right]$$

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An analytical review of these relationships indicates that they correspond with the transition of activity coefficients of metals not forming compounds in binary systems when: $1 < m \leq 2$. If the exponent m is of greater value than 2 ($m > 2$), then the relationship in $\ln f_A$ is represented by a curve, which moves towards the smaller values of N_B , and becomes more distinct with increasing values of m . When $m < 2.2$, there is still a sufficiently good degree of accord in the transition of the activity coefficients. The relation of the activity coefficients as a function of temperature was taken into account by the application of Hildebrand's approximation to the effect that the molecular heat of solution of a constituent does not depend on temperature. On this basis, the relations, cited in the article, for several separate solid and liquid solutions were established. The ranges of temperatures, also cited, correspond approximately with the temperatures for which the coefficients of activity were calculated. The equations established made it possible to fix the molecular heat of a solution of components, and the total quantity of heat required to produce a solution. The values of the total quantity of heat of the solution were compared with experimental data obtained by many other authors, and in most cases a considerable degree of accord was demonstrated.

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POLON

✓ Activity Coefficient of Some Non-Ferrous Metals in Binary Solutions. W. Ptak (*Bull. Acad. Polon. Sci.*, 1954, [iv], 2, (3), 137-142; in English). The thermodynamic properties of liq. and solid binary metallic soln. are represented by equations according to which the entropy of mixing is ideal and the heat of formation of a g. atom of soln. $\propto N_A^{-m}$, where N_A is the at. fraction of component A and $1 < m < 2.2$. The partial molar heat content of component B is represented by a function of different form from that of A. The two parameters are tabulated for the following systems (component A is given first): solid Ni-C; liq. Hg-Bi, Zn-Sn, Cu-Bi, Zn-Cd, and Bi-Cd; solid and liq. Sn-Bi, Cu-Ag, and Cu-Ni. For Zn-Cd alloys detailed results are presented and a comparison is made with published experimental data.

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PTAK, WLADYSLAW

✓ Activity coefficients of metals in liquid ternary solutions. CH
 Wladyslaw Ptak (Inst. Basic Problems Technol., Krakow).
~~Arch. Chem. 3, 69-87 (1955) (English summary).~~
 Expressions for the components of ternary metal
 solns. were derived as a function of composition for the
 ternary systems Pb-Cd-Zn, Sn-Pb-Zn, Sn-Cd-Zn, and
 Bi-Sn-Cd. The dependence of activity coeffs. on com-
 position in binary systems was used as the basis for deriva-
 tion of these expressions for ternary systems according to
 the formulas for multicomponent systems previously ob-
 tained by Krupkowski from the Gibbs-Duhem equation (cf.
 following abstr.). A further necessary assumption was that
 the metal solns. considered behaved ideally as regular solns.
 An expression for the heat of soln. in forming the various
 ternary compositions could then be obtained by means of
 the standard relation between heat of mixing or soln. and
 activity coeffs. From heat of soln. and activity-coeff. data
 for binary systems as given by A. Krupkowski and the equa-
 tions derived by P. for ternary systems, the total heats of
 soln. were calcd. as a function of compn. for the ternary
 solns. listed. The data are given in tables and by means of
 triangular coordinate diagrams. The max. heats of soln.
 for the various 3-component systems were as follows: Pb-
 Cd-Zn, approx. 1100 cal./mole of soln.; Sn-Pb-Zn, approx.
 1100; Sn-Cd-Zn, approx. 500; and Bi-Sn-Cd, approx. 380.
 These data apply over a wide temp. range, since according to
 Hildebrand's rule, the total heat of soln. is independent of
 temp. However, for those ternary systems contg. Pb and Zn
 as 2 of the components, temps. of over 770° are concerned,
 since below this the solns. form 2 distinct phases.

II. D.

~~ENTRANCE~~ PIK, W
POLAND/Physical Chemistry - Thermodynamics, Thermochemistry, Equilibria,
Physical-Chemical Analysis, Phase Transitions. B-8

Abs Jour: Referat. Zhurnal Khimiya, No 3, 1958, 7150.

Author : Aleksander Krupkowski, Wladislaw Pisk, Andrzej Block-Boiten.

Inst : Academy of Mining and Metallurgy.

Title : Thermodynamic Functions for Binary Systems.

Orig Pub: Zesz. nauk. Akad. gorn.-hutn., 1957, No 10, 27-71.

Abstract: A method of thermodynamic computation of state diagrams of binary metal systems, in which no compounds are forming, is discussed. It is assumed that regular solutions form in these systems. The systems Zn-Cd, Ag-Cu, Ni-Cu and Pb-Zn are discussed as examples.

Card : 1/1

-22-

PTAK, WLADYSLAW

Activity coefficients of some nonferrous metals in solid and liquid binary solutions. Wladyslaw Ptak. *Arch. Chém. i Hutnictwa* 2, No. 1, 1968, pp. 1-10. Summary, 119-21. — Formulas for activity coeff. applicable in metallurgical computations were calcd. from equations of A. Krupkowski and from equilibria of binary alloys. (N is mole fraction and T is abs. temp.). Solid solns.: for Ni-C at 1200-1700°K. $\log f_{Ni} = 1824.4 (1 - N_{Ni})^{0.57}/T$ and $\log f_C = 1824.4 [(1 - N_{Ni})^{0.57} - 2.6129 (1 - N_{Ni})^{0.57} + 1.3129]/T$; for Sn-Bi at 400-900°K. $\log f_{Sn} = 419.6 (1 - N_{Sn})^{0.73}/T$ and $\log f_{Bi} = 419.6 [(1 - N_{Sn})^{0.73} - 2.3699 (1 - N_{Sn})^{0.73} + 1.3090]/T$; for Cu-Ag at 1000-1500°K. $\log f_{Cu} = 1131.0 (1 - N_{Cu})^{0.44}/T$ and $\log f_{Ag} = 1131.0 [(1 - N_{Cu})^{0.44} - 1.5152]/T$; for Cu-Ni at 1350-1800°K. $\log f_{Cu} = 530.2 (1 - N_{Cu})^{0.44}/T$ and $\log f_{Ni} = 530.2 [(1 - N_{Cu})^{0.44} - 3.2222 (1 - N_{Cu})^{0.44} + 2.3222]/T$. Liquid solns.: for Bi-Hg at 300-700°K. $\log f_{Bi} = 92.3 (1 - N_{Bi})^{0.53}/T$ and $\log f_{Hg} = 92.3 [(1 - N_{Bi})^{0.53} - 21.0 (1 - N_{Bi})^{0.53} + 20.0]/T$; for Sn-Zn at 500-900°K. $\log f_{Sn} = 344.0 (1 - N_{Sn})^{0.41}/T$ and $\log f_{Zn} = 344.0 [(1 - N_{Sn})^{0.41} - 4.0303 (1 - N_{Sn})^{0.41} +$

$3.0303]/T$; for Bi-Cu at 550-1400°K. $\log f_{Bi} = 830.0 (1 - N_{Bi})^{0.41}/T$ and $\log f_{Cu} = 830.0 [(1 - N_{Bi})^{0.41} - 2.4925 (1 - N_{Bi})^{0.41} + 1.4925]/T$; for Bi-Cd at 400-900°K. $\log f_{Bi} = 71.9 (1 - N_{Bi})^{0.44}/T$ and $\log f_{Cd} = 71.9 [(1 - N_{Bi})^{0.44} - 1.0015 (1 - N_{Bi})^{0.44} + 0.0315]/T$; for Bi-Sn at 400-900°K. $\log f_{Bi} = 68.4 (1 - N_{Bi})^{0.44}/T$ and $\log f_{Sn} = 68.4 [(1 - N_{Bi})^{0.44} - 2.5025 (1 - N_{Bi})^{0.44} + 1.5025]/T$; for Ag-Cu at 1000-1500°K. $\log f_{Cu} = 700.0 (1 - N_{Cu})^{0.44}/T$ and $\log f_{Ag} = 700.0 [(1 - N_{Cu})^{0.44} - 2.1111 (1 - N_{Cu})^{0.44} + 1.1111]/T$; for Cu-Ni at 1350-1800°K. $\log f_{Cu} = 538.6 (1 - N_{Cu})^{0.44}/T$ and $\log f_{Ni} = 538.6 [(1 - N_{Cu})^{0.44} - 3.0 (1 - N_{Cu})^{0.44} + 2.0]/T$. The above equations provide possibilities for calcn. of the heat required to dissolve the components and the total heat required to form a soln. Values of this total heat based on the above equations mostly agree with the figures obtained experimentally by others.

Frank J. Hendel.

PTAK, W.

"Coefficients of Activity of Some Nonferrous Metals in Binary Solid and Liquid Solutions", P. 71, (ARCHIWUM GORNICTWA I HUTNICTWA, Vol. 2, No. 1, 1954, Warszawa, Poland)

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 4, No. 5, May 1955, Uncl.

PTAKHA, N.

On the first children's highway. 1Un. tekhn. 4 no.10:38-41 U '59.
(MIRA 13:1)

(Juvenile drivers)

PTAKHIN, G.A. (Stalingradskaya oblast').

Study of symmetry in the 6th and 7th grades. Mat.v shkole no.1:
59-67 Ja-F '54. (MIRA 7:1)

(Symmetry--Study and teaching)

PTASEKAS, R., med. m. kand.; SKLIUTAUSKAS, J.

A case of a fatal seizure of bronchial asthma. Sveik. apsaug. no.7:
20-22 '62.

1. Respublikine Vilniaus klinine ligonine. Vyr. gydytojas — V. Zygas.
(ASTHMA) (DEATH SUDDEN)

PALIUSCINSKAJA, N.; PTASEKAS, R.; KRUKOVSKAJA, I.; GORIUNOVA, N.

Clinico-anatomical analysis of mortality of pregnant women
with rheumatic heart disease. Sveik. Apsaug. no.4:10-14 '64.

1. Lietuvos respublikine Vilniaus klinine ligonine (Vyr. gydytojas -
V. Zygas). TSRS MMA Lietuvos eksperimentines medicinos institutas.
(Direktore - E. Karosiene).

PTASHCHENKO, A.A. [Ptashchenko, O.O.]

Infrared quenching of photoconductivity in CdS single crystals.
Ukr. fiz. zhur. 10 no.3:303-311 Mr '65.

(MIRA 18:6)

1. Odesskiy gosudarstvennyy universitet im. Mechnikova.

L 10387-66 EWT(1)/EWT(m)/T/EWP(t)/EWP(b) IJP(c) JD/AT
ACC NR: AP6002027 SOURCE CODE: UR/0185/65/010/012/1341/1348

AUTHOR: Ptashchenko, O. O. -- Ptashchenko, A. A.

ORG: Odessa State University im. I. I. Mechnikov (Odes'kyy derzhuniversitytet)

TITLE: Investigation of stationary infrared quenching of the current in CdS photo-

SOURCE: Ukrayins'kyy fizychnyy zhurnal, v. 10, no. 12, 1965, 1341-1348

TOPIC TAGS: cadmium sulfide, IR photoconductor, capture cross section, electron recombination, single crystal, IR light

ABSTRACT: Thin (0.04-0.1 mm) and thick (1-- 2 mm) samples of CdS single crystals were used to study lux-ampere characteristics. Interference filters were used to obtain light of the required spectral composition. The quenching IR light was obtained with IKSZ filters or a combination of the latter with interference filters. Light of wavelengths of 520 and 540 nm was used to excite the photocurrent. The dependence of the photocurrent on the IR illumination at various intensities of the exciting light was also investigated. The capture cross section of an IR photon in the transition of an electron from the valence band to a vacancy of the slow recombination channel is estimated at $\rho = (1.8 --$

Card 1/2

001343510018

L 47058-65 EWT(1)/EWT(m)/EEG(t)/T/EWP(t)/EEG(b)-2/EWP(b)/EWT(c) Pi-4/Pz-6
IJP(c) JD/GG/AT

ACCESSION NR: AP5007690

8/0185/65/010/003/0303/0311

AUTHOR: Ptashchenko, O. O. (Ptashchenko, A. A.)

TITLE: Concerning infrared quenching of photoconductivity in single crystals of CdS

SOURCE: Ukrayins'kyi fizychnyy zhurnal, v. 10, no. 3, 1965, 303-311

TOPIC TAGS: cadmium sulfide, single crystal, infrared quenching, photoconductivity, recombination

ABSTRACT: A new parameter is introduced to describe infrared quenching of photoconductivity in CdS single crystals. The use of the new parameter eliminates the saturation resulting from the use of the previously employed parameters, and it is shown that this saturation is due to the analytic form of the old parameters rather than to any physical cause. Experiments were made of the dependence of the photocurrent on the intensity of the quenching and exciting light on single-crystal samples of CdS crystallized from the gas phase. The samples had a dark resistivity larger than 10¹⁰ ohm-cm. The measuring equipment was similar to that used by others. The effect of infrared quenching is measured over a wider range of ratios.

Card 1/2

L 47056-65

ACCESSION NR: AP5007690

of the intensity of the exciting to the quenching light than was done by other investigators. An estimate is presented of the lower limit of the ratio of the electron to hole components of the conductivity in CdS. It is shown that infrared can decrease the photoconductivity in CdS single crystals by a factor of more than 10^4 . Approximate estimates are obtained for the parameters of the two recombination channels in CdS. The filling of the fast recombination channel by holes is increased by infrared light. The coefficient of recombination for the fast channel is larger by 10^4 times than the coefficient of recombination for the slow channel. "The author thanks his scientific director the late Docent T. Ya. S'ori (Sori) and Candidate of Phys-Mat Sciences M. K. Shynkman for a discussion of the results." Orig. art. has: 3 figures and 20 formulas.

ASSOCIATION: Odes'kyi derzhavnyi universytet im. I. I. Mechnykova [Odesskiy gosudarstvennyi universitet] (Odessa State University)

SUBMITTED: 05Jun64

ENCL: 00

SUB CODE: SS, NP

NR REF SOV: 008

OTHER: 009

am
Card 2/2

ACC NR: AP7003646

SOURCE CODE: UR/0020/67/172/001/0077/0079

AUTHOR: Lashkarev, V. Ye. (Academician AN UkrSSR); Ptashchenko, A. A.

ORG: Institute of Semiconductors, Academy of Sciences, UkrSSR (Institut poluprovodnikov Akademii nauk UkrSSR); Odessa State University (Odesskiy gosudarstvennyy universitet)

TITLE: Investigation of the spectral dependence of photoionization of sensitizing centers in cadmium sulfide

SOURCE: AN SSSR. Doklady, v. 172, no. 1, 1967, 77-79

TOPIC TAGS: cadmium sulfide, optic material, luminescence quenching, photoionization, photoconductivity, impurity center, optic transition

ABSTRACT: This is a continuation of earlier work (FTT v. 8, 1623, 1966) where it was shown that impurity photoconductivity in CdS is connected with photoionization of the sensitizing centers (r-centers). To ascertain whether the differences in the spectral dependences of the impurity photocurrent, observed from sample to sample, are due to simultaneous quenching of the impurity luminescence or to the presence of transitions of electrons from s-centers to the c-band, the authors investigated the kinetics of the impurity photocurrent at different constant additional illumination in the fundamental absorption region. The measurements were made on CdS single crystals, with filtered incandescent illumination used for the intrinsic illumination, and short pulses of impurity illumination were produced by spark discharge. The results showed

Card 1/2

ACC NR: AP7003646

no noticeable influence of the transition from the s-centers to the c-band, making it possible to measure the spectral distribution of the photon capture cross section for a wide range of illumination. The cross sections experienced a large scatter even for equal values of photon fluxes, owing to the different degrees of filling of the r-centers with vacancies in different samples. This conclusion was confirmed by an independent test. The authors thank M. K. Sheynkman for useful discussion of the results. Orig. art. has: 4 figures and 3 formulas.

SUB CODE: 20/ SUBM DATE: 11Jun66/ ORIG REF: 004/ OTH REF: 001

Card 2/2

L 46931-66 FWT(m)/EWT(1)/T/EWP(t)/ETI IJP(c) JD/GG

ACC NR: AP6015496

(N)

SOURCE CODE: UR/0181/66/008/005/1623/1625

AUTHOR: Ptashchenko, A. A.; Serdyuk, V. V.; Kuz'menko, I. A.

ORG: Odessa State University im. I. I. Mechnikov (Odesskiy gosudarstvennyy universitet)

TITLE: Infrared quenching of extrinsic photoconductivity in CdS

SOURCE: Fizika tverdogo tela, v. 8, no. 5, 1966, 1623-1625

TOPIC TAGS: cadmium sulfide, photoconductivity, IR photoconductor, capture cross section, impurity center

ABSTRACT: The kinetics of infrared (IR) quenching of the extrinsic photoconductivity from the $\lambda=600-900$ nm range were investigated by analyzing the relationships between the photocurrent and the light intensity at different short IR exposures. The obtained characteristics indicate that the families of the lux-ampere relationships at various IR exposures for intrinsic and extrinsic photocurrents coincide precisely, until there is a shift along the axis of intensities. This shift is caused by the difference between the CdS absorption coefficients in these two bands of the spectrum. The coincidence indicates that electron concentrations in the conductivity zone and in the r -centers and in the s -centers are not affected by the mode of the generation of the photocurrent, i. e., whether or not the photocurrent is generated by light which results in band-band electron transitions, or whether the transitions take place from impurity

Card 1/2

Card 2/2

NUDEL'MAN, B.I., inzh.; PTASHCHENKO, I.P., inzh.

Combining the processes of vibrating and molding in molding
plastic ceramics. Stroi.mat. 7 no.6:22-24 Je '61.

(Ceramic industry)

(MIRA 14:7)

PTASHCHINSKIY, I.A.

Comparative evaluation of methods for determining the color of
lubricants by using different colorimeters. Khim.i tekhn.topl.i
masel 5 no.3:69-70 Mr '60. (MIRA 13:6)
(Lubrication and lubricants)
(Colorimetry)

PTASHEK, A.S.

Use of an apparatus for ether-oxygen anesthesia. Med.sestra no.3:
14-17 Mr '55. (MLRA 8:5)

1. Starshaya operatsionnaya sestra Gospiatal'noy khirurgicheskoy
kliniki Vil'nyusskogo gosudarstvennogo universiteta.
(ANESTHESIA, INHALATION, apparatus and instruments
for ether & oxygen)
(APPARATUS AND INSTRUMENTS,
for ether & oxygen anesth.)

PTASHEK, Sh.A.

Surgical restoration of an injured common bile duct. Khirurgiya 32
no.6:71-72 Je '56. (MIRA 9:10)

1. Iz gosital'noy khirurgicheskoy kliniki (zav. - prof. V.YA.
Shlapoberskiy) Vil'nyusskogo gosudarstvennogo universiteta imeni
V.Kapsukasa i I Sovetskoy klinicheskoy bol'nitsy Vil'nusa (glavnyy
vrach I.T.Yelisayev)
(BILE DUCTS, wounds and inj.
surg. anastomosis)

POZERAITIS, Z.; PTASEKAS, R.

Two cases of death from Candida mycoses. Sveik. apsaug. 8 no.1:
40-41 Ja'63.

1. Resp. Vilniaus klinine ligonine.

★

PTASHEKAS, R.S.

PTASHEKAS, R.S.

Pathogenesis of internal hydrocephalus during meningeal tuberculosis
[with summary in French]. Probl.tub. 35 no.4:87-94 '57. (MLRA 10:8)

1. Iz Vil'niusskoy ob'yedinennoy detskoy bol'nitsy (glavnyy vrach
O.K.Syurpliyene)

(TUBERCULOSIS, MENINGEAL, in inf. & child
pathogen. role in hydrocephalus (Rus))
(HYDROCEPHALUS, etiol. & pathogen.
meningeal tuberc. in child (Rus))

Ptashinskiy, I.A.

USSR/Chemical Technology - Chemical Products and Their I-8
Application. Treatment of Natural Gases and Petroleum.
Motor and Jet Fuels. Lubricants.

Abs Jour : Ref Zhur - Khimiya, No 1, 1958, 2611

Author : Ptashinskiy, I.A., Frolova, M.K.

Inst : All-Union Scientific Research Institute of Petroleum and
Gas Processing and the Production of Synthetic Liquid Fuels

Title : Polarographic Method for Determining Tetraethyl Lead in
Gasoline.

Orig Pub : Tr. Vses. n.-i. in-t po pererabotke nefi i gaza i poluche-
niyu iskusstv. zhidk. topliva, 1957, No 6, 181-184

Abstract : A polarographic method has been developed for determining
tetraethyl lead in gasoline, which in the opinion of the
authors is more accurate and requires 3-4 times less time
than the standard methods of GOST 5337-50 and GOST 63-52.

Card 1/1

PTASHKA, Ye.M.

Epidemiology of toxoplasmosis. Report No.1. Vak. i syv. no.1:240-245
'63. (MIRA 18:8)

1. Moskovskiy institut vaktsin i syvorotok im. Mechnikova i
TSentral'nyy institut usovershenstvovaniya vrachey.

FRASER, A. A.

"Electroencephalographic Investigation of Cattle." Genl Biol Sci,
All-Union Inst of Experimental Veterinary Medicine, Moscow, 1953.
(REBiol, No 1, Sep 54)

SC: 3m 132, 2. Mar 55

KOMOLOV, V.I.; KONOVNIKOV, A.T.; PTASHKIN, M.F.

production of an inoculated cast iron. Lit. proizv. 5:41-42
My '64. (MIRA 18:3)

NAUMOV, A.N.; PTASHNIK, V.B.

Methods for determining the isotope effect of diffusion in solids.
Fiz. tver. tela 7 no.3:677-682 Mr '65.

(MIRA 18:4)

1. Fiziko-tekhnicheskii institut imeni Lofte AN SSSR, Leningrad.

PTASHNIKOV, S.

Control of intoxication in ileus. Khirurgiia, Sofia 9 no.4:
346-349 1956.

1. Gradska bolnitsa--Brovadiia, khirurgichno otdelenie
zav. otdelenieto: S. Ptashnikov.

(INTESTINAL OBSTRUCTION, surgery,
(Bul))

ARKHIPETS, Ye.Ya. (Kiyev); BONDAROVICH, I.M. (Khar'kov); BULANOV, V.N. (Kiyev);
 GALUSKIN, V.B. (Kiyev); GOGOTSI, G.A. (Nikolayev); GORBUNOVA, N.H.,
 (Kiyev); GORLITSKIY, B.A. (Kiyev); DYADYUSHA, G.G. (Kiyev); KATSHEL'SON,
 I.Ye. (Dnepropetrovsk); KVITCHUK, E.A. (Kiyev); KIRILLOV, I.A., (Krym)
 KONOPLYASOVA, N.S. (Chernovtsy); NIKOL'SKIY, V.V. (Kiyev); PONOMARENKO,
 A.A. (Stanislav); PESCHANSKIY, A.I. (Kiyev); POPOV, V.N. (Kiyev);
 PTASHNIKOVA, I.V. (Uzhgorod); STESHENKO, N.G. (Kiyev); CHAYKIN, M.M.
 (Vinnitsa); ~~SHAPOSHNIKOVA~~, N.N. (Kiyev); SHPORTYUK, V.I. (Kiyev);
 YANKO, N.M. (Stalinskaya oblast'); SVETCHNIKOVA, N., redaktor;
 SMORODSKIY, V., tekhnicheskij redaktor

[Tourist routes through the Ukraine] Turistskie marshruty po Ukraine.
 Kiev, Izd-vo TsK IKSMU "Molod'," 1957. 368 p. (MLA 10:8)
 (Ukraine--Description and travel)

GORBUNOVA, Natal'ya Nikolayevna; PTASHNIKOVA, Irina Vasil'yevna; SHAVERDOVA,
A.I., red.; DOTSENKO, A.A., tekhn. red.

[Birth of a dream] Rozhdenie mehty. Moskva, Gos. izd-vo "Fizkul'tu-
ra i sport," 1961. 100 p. (MIRA 14:7)
(Soviet Central Asia—Description and travel)

PTIHTA 1. A.

Geometry - Study and Teaching

Method of geometrical spaces in the seventh grade. Mat. v shkole No. 4, 1951.

9. Monthly List of Russian Accessions, Library of Congress, September 195⁶₂, Uncl.

PTAKHIN, G.A. (st.Ust'-Buzulukskaya Stalingradskoy obl.)

Studying the work and power of electric current in the 7th grade. Fiz.v
(MIRA 6:10)
shkole no.6:28-31 '53.

(Electric currents--Study and teaching)

L 29813-66 EWT(d)/EWP(e)/ENT(m)/EWP(w)/EWP (v)/EWP(j)/T/EWP(t)/ETI/ETP(k)

ACC NR: AP6014215 IJP(c) (A) JD/WH/EM/ SOURCE CODE: UR/0198/66/002/004/0026/0031

AUTHORS: Andreyev, L. V. (Dnepropetrovsk); Ptakhin, Ye. A. (Dnepropetrovsk)

ORG: none

TITLE: Stability of a cylindrical shell under a load of external pressure and axial tension forces

SOURCE: Prikladnaya mekhanika, v. 2, no. 4, 1966, 26-31

TOPIC TAGS: stress analysis, cylindric shell structure, shell theory, stability
hermetic seal, structural steel, structure

ABSTRACT: The effect of axial tensile stresses on the stability of a cylindrical shell under an external pressure load is investigated. The solution of the linearized equations for the shell leads to the result

$$q_{cr} = k q_{cr}^0$$

$$k = \frac{1 + 3\lambda (\lambda + \sqrt{1 + \lambda^2})}{(\lambda + \sqrt{1 + \lambda^2})^{3/2}}$$

$$q_{cr}^0 = \frac{\sqrt{2}}{3\sqrt{3}} \cdot \frac{\pi}{(1 - \nu^2)^{3/4}} E \frac{R}{l} \left(\frac{h}{R} \right)^{3/2}$$

$$\lambda = \frac{\sqrt{1 - \nu^2}}{2\pi} \cdot \frac{T}{E h^3}$$

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L 29813-66

ACC NR: AP6014215

3.

for the critical external pressure, and the following upper limit in the critical, axial compression load

$$T_{cr} = \frac{2\pi}{\sqrt{3(1-\nu^2)}} E h^3.$$

A special experiment was conducted to measure the effect of tension loads on the critical external pressure. The test cylinder was prepared from Kh19N9-N GOST 4986-54 sheet metal steel and was placed in a tensile loading device in a high pressure air chamber. The cylindrical shells were butt welded and hermetically sealed with VGK-18 No. 2 sealant. A total of 109 tests was carried out and the data give good agreement with experiments. The results show that axial tension forces can increase the load carrying capacity of the shells by a factor of 2 to 2.5. Orig. art. has: 10 formulas, 7 figures, and 1 table.

SUB CODE: 20/ SUBM DATE: 05Apr65/ ORIG REF: 002

Card 2/2 *h*

39832

S/081/62/000/011/039/057
E202/E192

11.9700
AUTHORS:

Monastyrskiy, V.N., Ptashinskiy, I.A., Goysa, Ye.I.,
and Avaliani, T.K.

TITLE:

Laboratory method of assessing the dispersing
properties of additives in lubricating oils

PERIODICAL:

Referativnyy zhurnal, Khimiya, no.11, 1962, 520,
abstract 11 M 215. (Novosti nef. i gaz. tekhn.
Neftepererabotka i neftekhimiya, no.3, 1961, 12-16).

TEXT:

A laboratory method of assessment of dispersing
properties of additives in oils is developed, employing electro-
photocolorimeter. Essentially the method comprises centrifuging
of the mixture of additives in toluene with lamp black, followed
by photometric determination of the fall in the transparency
coefficient of the centrifuged solution without lamp black (the
so-called index of dispersion). By means of this index it is
possible to evaluate the dispersion properties of the additive.
The method is sufficiently accurate. Discrepancies between the
parallel determinations of the dispersive index do not exceed
 $\pm 1.5\%$ of the mean value of the compared results.

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Laboratory method of assessing ...

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E202/E192

It was found that according to the character of the relation between the dispersive index and the concentration of the additive in toluene, the latter may be divided into two groups. Additives of the first group [Gintset additive consisting of ГДР (GDR), ПМС (PMS), ПМС₂ (PMSya)] are characterised by the presence of a maximum for the dispersing index during the change of their concentrations in toluene in the range 0.3 to 1.25%. The higher the maximum of the index of dispersion of the additive, the better its dispersing properties. The second group of additives (Lou 565, additive of Dupont de Nemours, АСК -1 (ASK-1), ashless nitrogenous polymeric additives, and others) comprises additives which do not exhibit a maximum in their dispersion index. To identify the additive type it is necessary to plot the curve relating the dispersion index and the concentration of additive in toluene. In order to compare the assessment of dispersing properties of the additives of the first group it is necessary to use the maximum value of their dispersion index. Factory quality control of the first group of additives is sufficient when carried

Card 2/3

Laboratory method of assessing ...

S/081/62/000/011/039/057
E202/E192

out only in concentrations corresponding to the maximum of their dispersion indices. The method may also be used to assess the duration of effectiveness of the dispersing properties of oils containing additives, under their working conditions.

[Abstractor's note: Complete translation.]

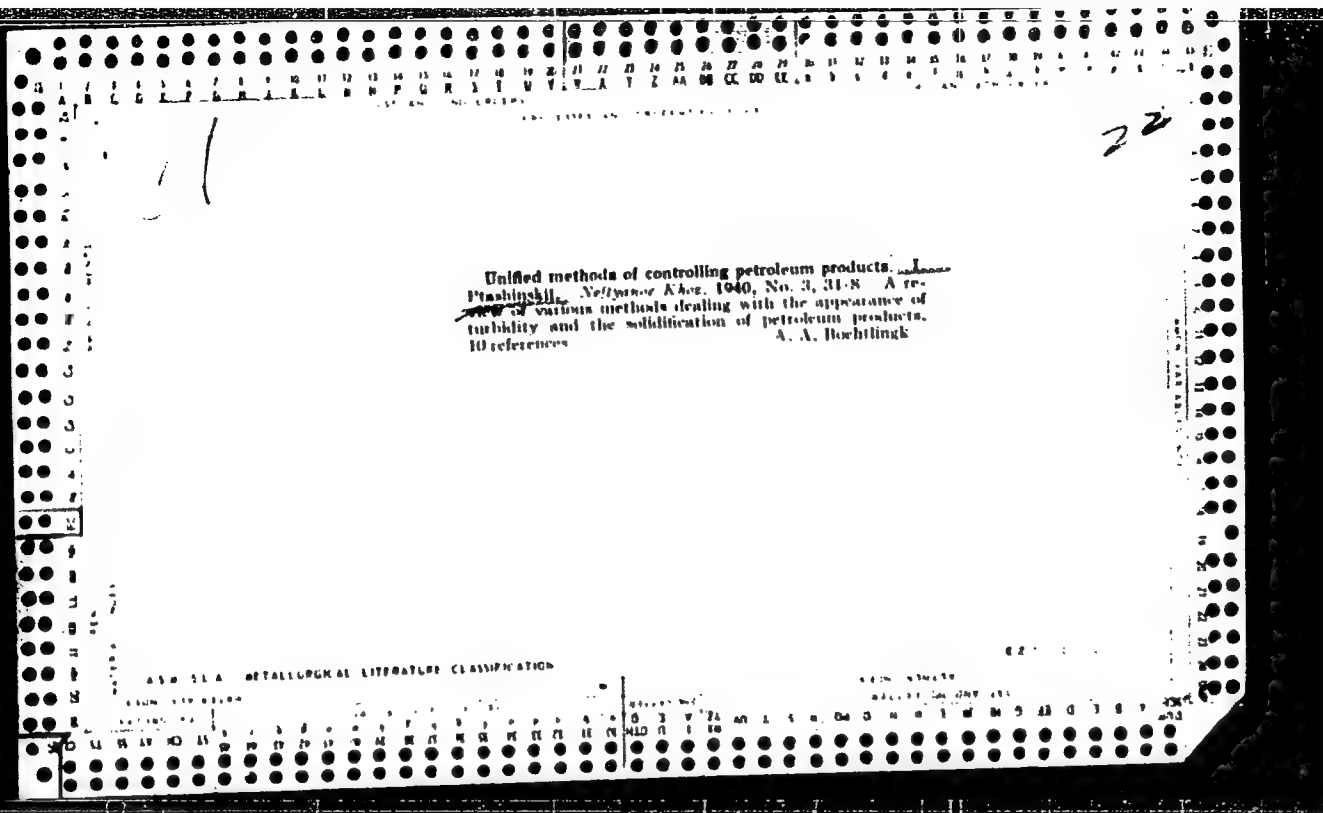
Card 3/3

Laboratory methods of testing lacquers used in aviation
Halina Piskowska, *Przegląd Chem.* 2, 283 (1938).— A
review. E. Józefowicz

PTARUSHEV, V.L.; GERSHTEYN, G.M.; KRASIL'NIKOV, V.Ya.

Venedikt Ivanovich Kalinin; obituary. Radiotekh. i elektron. 6
no.4:679-680 Ap '61. (MIRA 14:3)

(Kalinin, Venedikt Ivanovich, 1907-1960)



PROCESSING AND PROPERTY INDEX																																																																																																						
CA	Technical specifications for commercial cracked gasoline. I. A. Ptashinskii. <i>Nefteyanoe Khoz.</i> 20, No. 12, 30-40 (1939); <i>Chem. Zvezda</i>, 1940, 1, 3871. Such gasoline should begin to distil at a temp. not higher than 50° and the last should distil over at 225° with not more than 20% distg. below 100°. Tests showed that com. gasoline ordinarily began to distil at 28-35°. This results in too great a loss of the low-boiling constituents in summer, which may amount to over 3%. Moreover, in summer such gasoline may cause vapor lock in motors. Cracked gasoline for the middle zone of Russia must begin distg. at a temp. not lower than 45° and must have a vapor pressure not exceeding 250 mm. Hg when detd. by the method of Reid. M. G. Moore																																																																																																					
COMMON VARIANTS INDEX																																																																																																						
ASD-SLA METALLURGICAL LITERATURE CLASSIFICATION																																																																																																						
<table border="1"> <tr> <td>GROUP</td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> <td>5</td> <td>6</td> <td>7</td> <td>8</td> <td>9</td> <td>10</td> <td>11</td> <td>12</td> <td>13</td> <td>14</td> <td>15</td> <td>16</td> <td>17</td> <td>18</td> <td>19</td> <td>20</td> <td>21</td> <td>22</td> <td>23</td> <td>24</td> <td>25</td> <td>26</td> <td>27</td> <td>28</td> <td>29</td> <td>30</td> <td>31</td> <td>32</td> <td>33</td> <td>34</td> <td>35</td> <td>36</td> <td>37</td> <td>38</td> <td>39</td> <td>40</td> <td>41</td> <td>42</td> <td>43</td> <td>44</td> <td>45</td> <td>46</td> <td>47</td> <td>48</td> <td>49</td> <td>50</td> <td>51</td> <td>52</td> <td>53</td> <td>54</td> <td>55</td> <td>56</td> <td>57</td> <td>58</td> <td>59</td> <td>60</td> <td>61</td> <td>62</td> <td>63</td> <td>64</td> <td>65</td> <td>66</td> <td>67</td> <td>68</td> <td>69</td> <td>70</td> <td>71</td> <td>72</td> <td>73</td> <td>74</td> <td>75</td> <td>76</td> <td>77</td> <td>78</td> <td>79</td> <td>80</td> <td>81</td> <td>82</td> <td>83</td> <td>84</td> <td>85</td> <td>86</td> <td>87</td> <td>88</td> <td>89</td> <td>90</td> <td>91</td> <td>92</td> <td>93</td> <td>94</td> <td>95</td> <td>96</td> <td>97</td> <td>98</td> <td>99</td> <td>100</td> </tr> </table>		GROUP	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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1ST AND 2ND CODES																										PROCESS AND PROPERTIES INDEX																									
CLASSIFICATION																										COMMON SYMBOLS																									
Improving the antiknock properties of tractor fuel L. A. Prashinskii and Yu. N. Sledzhev. <i>Neftekhim.</i> <i>Khoz.</i> 1938, No. 3, 35-40. The following addns. to trac- tor kerosene and naphtha were tried to improve their antiknock properties: (1) com. aniline; (2) benzene from petroleum; (3) EtOH; (4) BuOH; (5) iso-Pr alc.; (6) pseudobutylene fraction with a boiling range of 30- 151°; (7) waste from the synthetic rubber process with a boiling range of 34-153°; (8) still residues from petroleum with a boiling range of 21-95°; (9) ether-hy- benzene with a boiling range of 21-95°; (10) ether-hy- benzene fraction from (3) with a boiling range of 80- 185°; (11) still residue from the gas plant from (7) with a boiling range of 34-88°; (12) condensate from the still residues from the polydiene plant with the addn. of (9) with a sp. gr. of d_4^{20} 0.705, (initial b. p.) 30° and end point 82°; (13) hexyl fraction with the addn. of (10), with a sp. gr. of d_4^{20} 0.831, i. b. p. 112° and end point 178°; (14) still residues (from another plant) with the addn. of (11), with a sp. gr. of d_4^{20} 0.731, i. b. p. 24° and end point 150°; (15) mixt. of addns. (3), (4), (5), (6), (7), (8), (9), (10) and (11) in equal percentage by vol. and addn. (12); with a sp. gr. d_4^{20} 0.745, i. b. p. 36° and end point 173°. The octane no. of tractor kerosene is raised from 35 to 44-46 by introducing one of the following addns.: waste from the synthetic rubber plant 20, BuOH 20, $C_{12}H_{26}$ 30, C_6H_5OH 10 or aniline 2% (by vol.). Further increase of the octane no. is attained by adding 10% (7).																																																			
All the above addns. give a stable winter fuel except mixts. of 50% kerosene + 30% $C_{12}H_{26}$, 90% kerosene + 10% C_6H_5OH and 98% kerosene + 2% aniline. The octane no. of tractor naphtha is raised to 55-60 by one of the following addns.: synthetic rubber waste 10, BuOH 10, $C_{12}H_{26}$ 15, C_6H_5OH 5 or aniline 1%. All these mixts. are suitable for winter use. A. A. Bochtlingk																																																			
ASB-51A METALLURGICAL LITERATURE CLASSIFICATION																																																			

PTASHKIN, A.A.; STARKOVA, V.I.; LI, A.B.

Determining the real assimilation of feed calcium by karakul
sheep with the help of Ca^{45} . Uzb. biol. zhur. 6 no.1:57-62
'62. (MIRA 15:3)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut karakulevod-
stva.

(KARAKUL SHEEP—FEEDING AND FEEDS)
(CALCIUM—ISOTOPES)

PTASIEWICZ, Jan, mgr.

Achievements of the Kedzierzyn Nitrogen Works. Przegl
techn no.25:12. Je '62.

PTASHKIN, A.A.

ALIKAEV, V. A. Cand. of Vet. Sci.; PTASHKIN, A. A. Jr. Sci Coworker

"The microclimate of an unheated stall for calves"

SO: Veterinarija 28(1), 1951, p. 30

SMOS

PTASHKIN, M.F.; KONOVALOV, A.T.

Improving the process of inoculation and annealing of malleable cast
iron at the Likhachev Plant. Lit. proizv. no. 4:38-40 Ap '61.

(MIRA 14:4)

(Moscow—Automobile industry) (Cast iron—Metallurgy)

AUTHORS: Ptashinskiy, I. A. and Guseva, R. I. sov/65-58-5-12/14

TITLE: The Electro-Mechanical Nature of the Corrosion of Metals in Lubricating Oils. (Elektrokhimicheskaya priroda korrozii metallov v smazochnykh maslakh).

PERIODICAL: Khimiya i Tekhnologiya, Topliv i Masel, 1958, Nr.5. pp. 65 - 68. (USSR).

ABSTRACT: The electro-chemical process taking place between the metal, organic acids and other oxygen-containing compounds in the oils were investigated. Results obtained during earlier investigations (Ref.1) could not be confirmed when testing industrial oils, and, therefore, further investigations were carried out which included the investigation of the behaviour of galvanic couples (copper - lead) in lubricating oils. Tests were also carried out on oils containing 5% of the additive Tsiatim-339. Results in Table 1 show that the magnitude of the electromotive force of the galvanic couple increases for each type of oil during three hours. Each oil is also characterised by its corresponding value of EMF. This variation in the EMF of the galvanic couple copper - lead was observed in oleic acid solutions in the oil SU (Ref.1). It was found that with increasing

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SOV/65-58-5-12 /14

The Electro-Mechanical Nature of the Corrosion of Metals in
Lubricating Oils.

concentration of the acid the EMF of the galvanic couple increases. Fig.1 shows the time variation of the EMF of the galvanic couple copper - lead at 140°C. The quantity of lead in oils is characterised by the height of the polarographic wave (expressed in mm) - Table 2. Similar experiments were carried out on oils containing the additive Tsiatim-339. A minimum value of the EMF for oils containing the additive occurred sooner than the maximum for oils not containing the additive. This fact indicates that the presence of the additive Tsiatim-339 inhibits the oxidation process. The polarographic wave of lead in oils not containing the additive is higher than in oils with the additive. The height of the polarographic wave of lead was taken as the rate of diffusion (taking one hour as unit of time). In all experiments the lamp millivolt-meter LP-6 was used as measuring device. The required supply of electric current was secured by a lubricating oil between the electrodes, the thickness of the layer not exceeding 1 mm. There are 2 Figures, 2 Tables and 4 References: 1 English, 3 Soviet.

Card 2/2

PTASHINSKIY, I.A.

Study and Use of Petroleum Products ,

~~917~~ ⁹¹⁷ Moscow, Gostoptekhzdat, 1957, 213p.

computing these boiling points when transferring from one pressure to another by using the coefficients of Antoine's equation ($t_p = \frac{B}{A - t_p} - C$) and a graphic method based on the molecular weights of the compounds. There are 3 figures, 4 tables and 11 references, of which 6 are Soviet and 5 English.

Ptashinskiy, I.A. and Guseva, R.I. Electrometric Method of Evaluating the Corrosive Aggressiveness of Lubricating Oils

174

This article gives a resume of research on the electro-chemical nature of the corrosions of metals in different solutions. The electrochemical nature of the corrosion process was proven for solutions of acids and for oil SU, and a satisfactory method for measuring the electric potential of a metallic electrode in lubricating oil was worked out. There are 3 tables and 7 Soviet references.

Card ^{1/2} 12/17

Study and Use of Petroleum Products 917

Ptashinskiy, I.A. and Frolova, M.K. Polarographic Method of
Determining Tetraethyl Lead in Gasolines

181

The authors offer a simpler and more reliable method of determining the concentration of tetraethyl lead in aviation and automobile gasolines. The quantity is computed according to the formula $TL (Pb(C_2H_5)_4) = \frac{323.22 C \cdot 75}{10^6}$, where TL is the

quantity of tetraethyl lead per g/kg. of gasoline; C the concentration of lead chloride, determined according to a calibrated graph based on the polarographing of the tested solution; and the density of gasoline at 20° C. The quantity of ethyl liquid product P-9 per ml. in 1 kg. of gasoline is: $X = 1.213 TL$. It is stated that this method requires 1/3 to 1/4th as much time as standard methods. There is 1 figure, 1 table and 3 references, of which 2 are Soviet.

Card 13/17

PTASHINSKIY, I.A.; GUSEVA, R.I.

Electrochemical nature of corrosion of metals in lubricating oils.
Khim. i tekhn. topl. i masel 3 no.5:65-68 My '58. (MIRA 11:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut po pererabotke
nefti i gaza i polucheniya iskusstvennogo zhidkogo topliva.
(Corrosion and anticorrosives)
(Lubrication and lubricants)

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779⁴³
SOV/65-60-3-16/19

AUTHOR: Ptashinskiy, I. A

TITLE: Comparative Evaluation of Methods for Determination
of Color of Lubricating Oils on Different Colorimeters

PERIODICAL: Khimiya i tekhnologiya topliv i masel, 1960, Nr 3,
pp 69-70 (USSR)

ABSTRACT: This is a critical comment on the article by F. S.
Yakobi, Ye. L. Geylikman, Ye. V. Voznesenskaya,
"Lubricating Materials, Additives and Paraffins,"
published in "Works of the All-Union Scientific Research
Institute of Petroleum Industry," in 1958, VII series.
The author discusses two Soviet colorimeters, KN-51
and FEKN-56, and U.S. colorimeter, "Union." According
to him, the Soviet colorimeters are of much higher
precision. As suggested by the authors of the above
article, there is no need to adapt "Union" colorimeter
for Soviet industry.

Card 1/1

PTASHINSKIY, I.A.; GUSEVA, R.I.

Electrometric method for evaluating the degree of corrosive action
of lubricating oils. Trudy VNII NP no.6:174-180 '57. (MIRA 10:10)
(Corrosion and anticorrosives) (Lubrication and lubricants)

PTASHINSKIY, I.A.; PROLOVA, M.K.

Polarographic method for determining the tetraethyl lead gasolines.
Trudy VNII NP no.6:181-184 '57. (MIRA 10:10)
(Polarography) (Lead) (Gasoline--Analysis)

KOVALEVA, Ye.F.; PTASHKA, Ya.M.; BOLOTOVA, S.A.

Toxoplasmosis in the workers of the Moscow Meat Combine. Vak. i syv.
no.1:236-239 '63. (MIRA 18:8)

1. Tsentral'nyy institut usovershenstvovaniya vrachey, Moskovskiy
institut vaktsin i syvorotok im. Mechnikova i Moskovskaya gorodskaya
sanitarno-epidemiologicheskaya stantsiya.

PTASHKIN, A.V., inzh.

Concerning the adjustment of automatic excitation regulators. Elek.
sta. 32 no.12:83-86 D '61. (MIRA 15:1)
(Electric generators) (Electric power distribution)